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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,720	07/01/2003	Yuji Akimoto	Komatsu Case 287	6093
23474	7590	01/06/2006	EXAMINER	
FLYNN THIEL BOUTELL & TANIS, P.C. 2026 RAMBLING ROAD KALAMAZOO, MI 49008-1631			VANNOY, TIMOTHY C	
			ART UNIT	PAPER NUMBER
			1754	
DATE MAILED: 01/06/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/611,720

Applicant(s)

AKIMOTO ET AL.

Examiner

Timothy C. Vanoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
- Paper No(s)/Mail Date 04/06/2005 **3/8/04**

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Specification***

Applicant is reminded of the proper content of an Abstract of the Disclosure.

In chemical patent abstracts for compounds or compositions, the general nature of the compound or composition should be given as well as its use, e.g., "The compounds are of the class of alkyl benzene sulfonyl ureas, useful as oral anti-diabetics." Exemplification of a species could be illustrative of members of the class. For processes, the type reaction, reagents and process conditions should be stated, generally illustrated by a single example unless variations are necessary.

Complete revision of the content of the abstract is required on a separate sheet.

The abstract should be amended to provide specific examples of the reagents and the double oxide powder.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) The term "fine" in claim 1 is a relative term which renders the claim indefinite.

The term "fine" is not defined by the claim, the specification does not provide a standard

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for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

b) Claim 1 does not particularly point out and distinctly set forth how the provision of only *one* metal element (or semi-metal element) as the “raw material compound” can produce the claimed “double oxide powder”. In order to get the claimed “double oxide powder” of claim 1, it appears that the limitations of claim 3 have to be incorporated into claim 1.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The person having ordinary skill in the art has the capability of understanding the scientific and engineering principles applicable to the claimed invention. The references of record in this application reasonably reflect this level of skill.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-5 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japan Patent Document No. 10-182,161 A (hence "JP-161").

JP-161 appears to disclose a two-step process for making the same double oxide powders (lithium manganese oxides are mentioned in the abstract and also in paragraph no. 0007 in the text of JP-161), comprising:

Providing a reaction solution comprising a "metal element constructing a lithium-manganese double oxide" (i. e. salts of lithium and manganese?); oxypolycarboxylic

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acid and polyol and allowing the reagents to react to form what appears to be a “water-soluble compound carboxylic ester complex oligomer” (please see the abstract);

Extracting a solid component from the reaction solution and (evidently) dissolving it in water to form a solution, and

Spray-heating this solution to form droplets that are subjected to heat at a temperature ranging from 500 to 900 °C to (evidently) decompose the compound into double metal oxide.

The difference between the applicants' claims and JP-161 is that applicants' claims 1 and 2 describe the DTA profile of the raw material compound or reaction intermediate, however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because the same raw material compound or reaction intermediate in the same process will inherently exhibit the same DTA profile. Since this difference is inherently met in the process of JP-161, then these claims are rejected under 35USC102 as well as 35USC103.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U. S. Patent 5,958,362 to Takatori et al.

Claim 1 in the Takatori et al. patent describes a process for making mixed metal lithium oxides (containing another different metal) of the spinel structure, comprising:

Providing a reaction solution containing metal salt precursors of the lithium component and the metal component;

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Spraying the reaction solution in the form of droplets into a reaction chamber at a temperature of 300 to 1,200 °C so that the metal salt precursors are transformed into the mixed metal lithium oxides.

The difference between the applicants' claims and the Takatori patent is that applicants' claims 1 and 2 describe the DTA profile of the raw material compound or reaction intermediate, however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because the same raw material compound or reaction intermediate in the same process will inherently exhibit the same DTA profile. Since this difference is inherently met in the process of the Takatori patent, then these claims are rejected under 35USC102 as well as 35USC103.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U. S. Patent 5,958,361 to Laine et al.

Example 3 in the Laine et al. patent describes a process for making magnesium aluminum spinel, comprising:

Adding magnesium hydroxide to a solution containing aluminum hydroxide, ethylene glycol and TEA, and

Subjecting the mixture to a flame spray pyrolysis so as to convert the reagents into magnesium aluminum spinel (please see the title and also claim 1 in this Laine et al. patent).

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The difference between the applicants' claims and the Laine et al. patent is that applicants' claims 1 and 2 describe the DTA profile of the raw material compound or reaction intermediate, however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because the same raw material compound or reaction intermediate in the same process will inherently exhibit the same DTA profile. Since this difference is inherently met in the process of the Laine et al. patent, then these claims are rejected under 35USC102 as well as 35USC103.

The following references, which are indicative of the state of the art, are made of record:

U. S. Patent 6,060,165 disclosing a metal powder and process for preparing the same;

U. S. Patent 6,110,442 disclosing a method for preparing  $\text{Li}_x\text{Mn}_2\text{O}_4$ ;

U. S. Patent 6,530,972 disclosing a method for preparing metal powder, and

U. S. Patent Application Publication US 2003/0039607 A1 disclosing a method for manufacturing ITO powder.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy C. Vanoy whose telephone number is 571-272-8158. The examiner can normally be reached on Mon-Fri 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone



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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Timothy C Vanoy*  
Timothy C Vanoy  
Patent Examiner  
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